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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 10/068,123
Filing Date: February 05, 2002
Appellant(s): ROBBINS ET AL.

N. Denise Brown
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 11/29/04.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection is substantially correct. The changes are as follows:

The rejection of claims 1 and 2 under 35 U.S.C. 102(b) as being anticipated by Bogdany (U.S. Patent 4,423,103) **is withdrawn**.

The rejection of claims 1-10 and 13-15 under 35 U.S.C. 103(a) as being obvious over Stidham (U.S. Patent 4,354,810) in view of Holeschovsky et al. (WO 00/37737) **is withdrawn**.

The rejection of claims 3-10 and 13-15 under 35 U.S.C. 103(a) as being obvious over Bogdany, and further in view of Holeschovsky et al. **is withdrawn**.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

The following is a listing of the evidence (e.g., patents, publications, Official Notice, and admitted prior art) relied upon in the rejection of claims under appeal.

(A) Listing of the Prior Art of Record

WO 00/37737	HOLESCHOVSKY et al.	6-2000
5,045,375	DAVIS et al.	9-1991
4,354,810	STIDHAM	10-1982
GB 2160790	SATIAR	6-1986
4,423,103	BOGDANY	12-1983

(B) Brief Description of the Prior Art of Record

Holeschovsky et al. disclose a polyurethane (adhesive) backed tufted carpet, i.e. greige good. Holeschovsky et al. teach a polyurethane mixture comprising at least one polyisocyanate component, at least one isocyanate-reactive component, at least one non-Newtonian thickener, and at least one filler. Holeschovsky et al. teach a process for applying the polyurethane mixture to the back side, i.e. underside, of the tufted carpet comprising providing a tufted carpet, applying the polyurethane mixture to the back side of the tufted carpet, passing the coated tufted carpet under a doctor blade to spread the polyurethane mixture across the surface of the carpet, and passing the coated tufted carpet through an oven to cure the polyurethane mixture.

Stidham discloses a process for producing a patterned polyurethane (adhesive) backed tufted carpet. Stidham teaches providing a tufted carpet, applying a polyurethane mixture to the

back side of the tufted carpet, passing the coated tufted carpet under a doctor roller having a pattern or a doctor blade having removable patterned blades to form a pattern in the polyurethane mixture, and passing the coated tufted carpet through an oven to cure the polyurethane mixture.

Davis et al. disclose a process for producing a patterned polyurethane (adhesive) backed tufted carpet. Davis et al. teach providing a tufted carpet, applying a polyurethane mixture to the back side of the tufted carpet, passing the coated tufted carpet under a patterned doctor blade to form a pattern in the adhesive, and passing the coated tufted carpet through an oven to cure the polyurethane mixture. Davis et al. teach the pattern is formed to impart non-slip/skid properties to the carpet.

Bogdany discloses a process for producing a patterned polyurethane (adhesive) backed tufted carpet. Bogdany teaches providing a tufted carpet, applying a polyurethane mixture to the back side of the tufted carpet, passing the coated tufted carpet under a first doctor blade to spread the polyurethane mixture evenly across the back surface of the tufted carpet, passing the coated tufted carpet under a second doctor blade that is patterned, i.e. a rake, to form a pattern in the polyurethane mixture, and passing the coated tufted carpet through an oven to cure the polyurethane mixture.

Satiar discloses a process for producing a patterned adhesive backed carpet. Satiar teaches providing a carpet, applying an adhesive mixture to the back side of the carpet, and passing the coated carpet under a patterned doctor blade to form a pattern in the adhesive. Satiar teaches the pattern is formed to impart non-slip/skid properties to the carpet.

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claims 1-10 and 13-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Holeschovsky et al. (WO 00/37737) in view of any one of Stidham (U.S. Patent 4,354,810), Davis et al. (U.S. Patent 5,045,375), Bogdany (U.S. Patent 4,423,123), or Satiar (GB 2160790).

Holeschovsky et al. disclose a polyurethane (adhesive) backed tufted carpet, i.e. greige good. Holeschovsky et al. teach a polyurethane mixture comprising at least one polyisocyanate component, at least one isocyanate-reactive component, at least one non-Newtonian thickener, and at least one filler (Page 10, lines 1-5, 13-14, and 18-19 and Page 11, lines 23-24). Holeschovsky et al. teach a process for applying the polyurethane mixture to the back side, i.e. underside, of the tufted carpet comprising providing a tufted carpet, applying the polyurethane mixture to the back side of the tufted carpet, passing the coated tufted carpet under a doctor blade to spread the polyurethane mixture across the surface of the carpet, and passing the coated tufted carpet through an oven to cure the polyurethane mixture (Figures 1-3 and Page 1, lines 7-11 and Page 5, lines 19-32 and Page 6, lines 1-11 and Page 7, lines 12-15 and Page 19, lines 17-23 and Page 26, lines 7-10 and claim 25). Holeschovsky et al. are silent as to using the doctor blade (or adding an additional patterned doctor blade) to form a pattern in the polyurethane mixture, it being noted Holeschovsky et al. specifically teach using a doctor blade to spread the polyurethane mixture on the back side of the tufted carpet and Holeschovsky et al. specifically teach depending upon the type of carpet produced additional doctor blades, etc. may be used (Page 5, lines 22-24 and Page 7, lines 12-15). It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the polyurethane backed tufted

carpet taught by Holeschovsky et al. with a pattern using a patterned doctor blade (or by adding an additional patterned doctor blade) as it was well known in the art to form adhesive, e.g. polyurethane, backed carpets with a pattern, e.g. from a patterned doctor blade, to give the carpet non-slip/skid properties as shown for example by any one of Stidham, Davis et al., Bogdany, or Satiar.

Stidham discloses a process for producing a patterned polyurethane (adhesive) backed tufted carpet. Stidham teaches providing a tufted carpet, applying a polyurethane mixture to the back side of the tufted carpet, passing the coated tufted carpet under a doctor roller having a pattern or a doctor blade having removable patterned blades, i.e. a patterned doctor blade, to form a pattern in the polyurethane mixture, and passing the coated tufted carpet through an oven to cure the polyurethane mixture (Figures 1-8 and Column 1, lines 16-28, 41-48, and 66-68 and Column 2, lines 1-2 and Column 3, lines 10-22 and 58-68 and Column 4, lines 1-2, 15-26, 34-38, and 53-57 and Column 5, lines 11-17, 44-47, and 64-67 and Column 6, lines 3-4, 28-30, and 33-35).

Davis et al. disclose a process for producing a patterned polyurethane (adhesive) backed tufted carpet. Davis et al. teach providing a tufted carpet, applying a polyurethane mixture to the back side of the tufted carpet, passing the coated tufted carpet under a patterned doctor blade to form a pattern in the adhesive, and passing the coated tufted carpet through an oven to cure the polyurethane mixture. Davis et al. teach the pattern is formed to impart non-slip/skid properties to the carpet (Column 1, lines 9-11 and Column 2, lines 57-61 and Column 3, lines 4-6, 9-17, and 20-23 and Column 4, lines 21-26 and Column 5, lines 9-12.

Bogdany discloses a process for producing a patterned polyurethane (adhesive) backed tufted carpet. Bogdany teaches providing a tufted carpet, applying a polyurethane mixture to the back side of the tufted carpet, passing the coated tufted carpet under a first doctor blade to spread the polyurethane mixture evenly across the back surface of the tufted carpet, passing the coated tufted carpet under a second doctor blade that is patterned, i.e. a rake, to form a pattern in the polyurethane mixture, and passing the coated tufted carpet through an oven to cure the polyurethane mixture (Figures 1 and 4 and Column 1, lines 32-47, 51-53, and 60-68 and Column 2, lines 1-11 and 58-61). It is noted the "rake" as described by Bogdany is nothing more than a patterned doctor blade as both have the same structure.

Satiar discloses a process for producing a patterned adhesive backed carpet. Satiar teaches providing a carpet, applying an adhesive mixture to the back side of the carpet, and passing the coated carpet under a patterned doctor blade to form a pattern in the adhesive. Satiar teaches the pattern is formed to impart non-slip/skid properties to the carpet (Page 1, lines 4-9, 22-31, 45-51, 57-59, and 80-81).

Regarding claims 3-5, 8-10, and 13-15, Holeschovsky et al. teach the non-Newtonian thickener may be inorganic having a specific surface area of 10 m^2/g or greater (Page 12, lines 4-7). Holeschovsky et al. teach the inorganic thickener is present in an amount of from 0.25 to 20 parts per 100 parts of isocyanate-reactive ingredients (Page 12, lines 16-18). Holeschovsky et al. teach the inorganic non-Newtonian thickener is selected from precipitated calcium carbonate, clay minerals, fumed silica, etc. (Page 12, lines 8-13). Holeschovsky et al. teach the inorganic non-Newtonian thickener has a mean particle size less than 0.3 microns (Page 12, lines 27-30 and Page 13, lines 1-5). Holeschovsky et al. teach the inorganic non-Newtonian thickener forms

aggregates and/or agglomerates (Page 12, lines 25-26). Holeschovsky et al. teach the viscosity of the polyurethane mixture at a first high rate of shear is within 20% of the viscosity of a reactive polyurethane of the same formulation but devoid of non-Newtonian thickener, and is at least three times the viscosity of the non-Newtonian thickener-devoid composition at a second, lower rate of shear (Table 1 and Page 20, lines 24-26 and claim 11). Holeschovsky et al. teach optionally applying a woven secondary backing to the coated tufted carpet after passing the coated tufted carpet under the doctor blade (Page 1, lines 7-11 and Page 23, lines 1-2). Holeschovsky et al. teach the back side of the carpet may have a cured or uncured polyurethane precoat (Page 1, lines 7-11 and Page 17, lines 3-6 and claim 25).

Regarding claims 6 and 7, while Holeschovsky et al. do not specifically disclose amounts of fumed silica or precipitated calcium carbonate as described in the claims, it is noted the polyurethane mixture described by Holeschovsky et al. is the same as that described and claimed by applicant such that one of ordinary skill in the art at the time the invention was made would have readily expected the polyurethane mixture taught by Holeschovsky et al. to have the amounts of fumed silica or precipitated calcium carbonate required by claims 6 and 7. Furthermore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to experimentally determine/optimize these amounts as a function of the properties of the product produced as doing so would have required nothing more than ordinary skill and routine experimentation.

(10) Response to Argument

As noted above, claims 1-10 and 13-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Holeschovsky et al. in view of any one of Stidham, Davis et al., Bogdany, or Satiar. Appellants arguments regarding this rejection are addressed below.

Appellants arguments to Holeschovsky et al.

Appellants argue, "This polyurethane composition is quite similar to the presently required polyurethane composition.". The polyurethane mixture described in Holeschovsky et al. is the same as that required by claim 1, and appellants have not advanced any arguments regarding Holeschovsky et al. not including any of the components (a)-(d) in claim 1.

Appellants further argue, "The Holeschovsky et al reference does not disclose any information concerning the formation of a pattern in a polyurethane backed greige good. It is well known by one of ordinary skill in the art, however, that problems arise when forming a pattern in a polyurethane composition used as a backing on a greige good." Holeschovsky et al. are silent as to forming a pattern in the polyurethane mixture. However, Holeschovsky et al. do not describe any problems that may arise when providing a pattern in the polyurethane composition. Furthermore, Holeschovsky et al. specifically teach using a doctor blade to spread the polyurethane mixture on the back side of the tufted carpet, and Holeschovsky et al. specifically teach depending upon the type of carpet produced additional doctor blades, etc. may be used (Page 5, lines 22-24 and Page 7, lines 12-15).

Appellants arguments to Stidham

Appellants argue, "Although the Stidham reference discloses that the apparatus therein is suitable for both latex and polyurethane foam compositions, the only working example uses a latex composition. Thus, it is unclear at best how well the method for forming patterns described by this reference would work with a polyurethane composition. Appellants respectfully submit that the skilled artisan has no insight into the fact that the polyurethane compositions of the Holeschovsky et al reference which contain non-Newtonian thickeners overcome this problem associated with conventional polyurethane compositions and the problem with retaining the pattern in the foam throughout the curing region." Stidham clearly discloses a process for providing a pattern to an adhesive mixture present on the back side of a tufted carpet **wherein the adhesive mixture is a polyurethane mixture**, it being noted both Stidham and Holeschovsky et al. may use a polyurethane foam mixture (See Column 3, lines 13 of Stidham and Page 19, lines 13-15 of Holeschovsky et al.). Nowhere does Stidham describe any problems associated with performing the process using a polyurethane mixture.

Appellants arguments to Davis et al.

Appellants argue, "It is apparent from the Davis et al reference that some polyurethane compositions, such as those comprising polyurea and polyurethane and described therein, are suitable for forming patterns, the reference combined with the Holeschovsky et al reference simply does not provide a proper basis for one of ordinary skill in the art to reasonably conclude and/or expect that the polyurethane compositions of the Holeschovsky et al reference which contain non-Newtonian thickeners, are also capable of maintaining a pattern once it is formed. Upon reading the Davis et al reference, the skilled artisan would expect that the foam

composition is critical and must form a thixotropic gel structure to hold the desired pattern. Appellants respectfully submit that there is simply no basis for one of ordinary skill in the art to believe polyurethane compositions containing non-Newtonian thickeners as described by the Holeschovsky et al reference would form such a thixotropic gel structure. Accordingly, the skilled artisan could not reasonably expect that substituting the polyurethane composition from the Holeschovsky et al reference for the foam of the Davis et al reference and following the process described by this secondary reference would result in a patterned backing on a greige good." It is noted Holeschovsky et al. teach a polyurethane foam mixture may be used such that clearly one would expect the polyurethane mixture taught by Holeschovsky et al. to hold a pattern (Page 19, lines 13-15). Furthermore, the rejection is merely including a patterned doctor blade in the process taught by Holeschovsky et al. to impart non-slip/skid properties to the carpet, it being again noted there is no teaching in Holeschovsky et al. away from doing so, and Davis et al. (along with the other secondary references) are applied merely as exemplary in the art of well known processes including a polyurethane mixture that is patterned by passing under a patterned doctor blade for the expected benefit.

Appellants arguments to Bogdany

Appellants argue, "It is simply not obvious to one of ordinary skill in the art that the polyurethane compositions of the Holeschovsky et al reference allow a pattern to be formed immediately at the point of gauging the thickness, instead of at a later point in time! This is simply not suggested to the skilled artisan by this combination of references." The claims are not commensurate in scope with this argument. The claims do not exclude a process including a doctor blade for gauging the thickness and a patterned doctor blade for providing the pattern.

Furthermore, as noted above Holeschovsky et al. specifically state additional doctor blades may be used in the process.

Appellants arguments to Satiar

Appellants argue, "Of the secondary references cited by the Examiner in the obviousness rejection, polyurethanes are disclosed as suitable compositions by the Stidham reference (see column 6, lines 33-36), the Davis et al reference (see column 4, lines 43-64, and column 5, lines 4-29), and the Bogdany reference (see column 4, lines 2-38). The Satiar reference only discloses foamed rubber which comprises latex (natural or synthetic) as a suitable backing composition (see page 1 , lines 4-14). Accordingly, the Satiar reference is not particularly relevant to the presently claimed invention.". Satiar is cited merely to show that when applying an adhesive mixture, including those other than polyurethane, to the back side of a carpet it was a well known technique to pattern the adhesive mixture using a patterned doctor blade to impart non-slip/skid properties to the carpet.

In conclusion, Holeschovsky et al. disclose applying to the back side of a tufted carpet a polyurethane mixture (the same as that claimed) and passing the coated carpet under a doctor blade. Holeschovsky et al. do not specifically state the doctor blade may be patterned. However, Holeschovsky et al. are not limited to any particular doctor blade, and Holeschovsky et al. teach additional doctor blades may be used. Stidham, Davis et al., Bogdany, and Satiar are examples in the art of the well known technique of applying an adhesive mixture similar to that taught by Holeschovsky et al. to the back side of a tufted carpet and passing the coated carpet under a patterned doctor blade to impart non-slip/skid properties to the carpet. Thus, in view of the above it would have been obvious to one of ordinary skill in the art at the time the invention was

made to use a patterned doctor blade (or a second doctor blade having a pattern) in Holeschovsky et al. to impart non-slip/skid properties to the carpet as doing so was well known in the same art as shown for example by any one of Stidham, Davis et al., Bogdany, or Satiar.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

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